

ABSTRACT

A system and method are disclosed for the detection of water vapor in a natural gas background. The system includes a light source operating in a wavelength range such as, 1.877 - 1.901 μm , 2.711 – 2.786 μm , or 920 – 960 nm, passes through the natural gas to be detected by a
5 detector. In one embodiment, the light source is a tunable diode laser and the moisture level is determined by harmonic spectroscopy. In other embodiments, a VCSEL laser is utilized.